

SEQUENCE LISTING

<110> APPLIED RESEARCH SYSTEMS ARS HOLDING N.V.

<120> USE OF PRION CONVERSION MODULATING AGENTS

<130> WO/845

<160> 3

<170> PatentIn version 3.1

<210> 1

<211> 4563

<212> PRT

<213> Homo sapiens

<400> 1

Met Asp Pro Pro Arg Pro Ala Leu Leu Ala Leu Leu Ala Leu Pro Ala
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Leu Leu Leu Leu Leu Leu Ala Gly Ala Arg Ala Glu Glu Glu Met Leu
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Glu Asn Val Ser Leu Val Cys Pro Lys Asp Ala Thr Arg Phe Lys His
 35 40 45

Leu Arg Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu Ser Ser Ser Gly Val
 50 55 60

Pro Gly Thr Ala Asp Ser Arg Ser Ala Thr Arg Ile Asn Cys Lys Val
 65 70 75 80

Glu Leu Glu Val Pro Gln Leu Cys Ser Phe Ile Leu Lys Thr Ser Gln
 85 90 95

Cys Thr Leu Lys Glu Val Tyr Gly Phe Asn Pro Glu Gly Lys Ala Leu
 100 105 110

Leu Lys Lys Thr Lys Asn Ser Glu Glu Phe Ala Ala Ala Met Ser Arg
 115 120 125

Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly Lys Gln Val Phe Leu Tyr
 130 135 140

Pro Glu Lys Asp Glu Pro Thr Tyr Ile Leu Asn Ile Lys Arg Gly Ile
 145 150 155 160

Ile Ser Ala Leu Leu Val Pro Pro Glu Thr Glu Glu Ala Lys Gln Val

165	170	175
Leu Phe Leu Asp Thr Val Tyr Gly Asn Cys Ser Thr His Phe Thr Val		
180	185	190
Lys Thr Arg Lys Gly Asn Val Ala Thr Glu Ile Ser Thr Glu Arg Asp		
195	200	205
Leu Gly Gln Cys Asp Arg Phe Lys Pro Ile Arg Thr Gly Ile Ser Pro		
210	215	220
Leu Ala Leu Ile Lys Gly Met Thr Arg Pro Leu Ser Thr Leu Ile Ser		
225	230	235
Ser Ser Gln Ser Cys Gln Tyr Thr Leu Asp Ala Lys Arg Lys His Val		
245	250	255
Ala Glu Ala Ile Cys Lys Glu Gln His Leu Phe Leu Pro Phe Ser Tyr		
260	265	270
Asn Asn Lys Tyr Gly Met Val Ala Gln Val Thr Gln Thr Leu Lys Leu		
275	280	285
Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe Phe Gly Glu Gly Thr Lys		
290	295	300
Lys Met Gly Leu Ala Phe Glu Ser Thr Lys Ser Thr Ser Pro Pro Lys		
305	310	315
Gln Ala Glu Ala Val Leu Lys Thr Leu Gln Glu Leu Lys Lys Leu Thr		
325	330	335
Ile Ser Glu Gln Asn Ile Gln Arg Ala Asn Leu Phe Asn Lys Leu Val		
340	345	350
Thr Glu Leu Arg Gly Leu Ser Asp Glu Ala Val Thr Ser Leu Leu Pro		
355	360	365
Gln Leu Ile Glu Val Ser Ser Pro Ile Thr Leu Gln Ala Leu Val Gln		
370	375	380
Cys Gly Gln Pro Gln Cys Ser Thr His Ile Leu Gln Trp Leu Lys Arg		
385	390	395
Val His Ala Asn Pro Leu Leu Ile Asp Val Val Thr Tyr Leu Val Ala		
405	410	415

Leu Ile Pro Glu Pro Ser Ala Gln Gln Leu Arg Glu Ile Phe Asn Met
 420 425 430

Ala Arg Asp Gln Arg Ser Arg Ala Thr Leu Tyr Ala Leu Ser His Ala
 435 440 445

Val Asn Asn Tyr His Lys Thr Asn Pro Thr Gly Thr Gln Glu Leu Leu
 450 455 460

Asp Ile Ala Asn Tyr Leu Met Glu Gln Ile Gln Asp Asp Cys Thr Gly
 465 470 475 480

Asp Glu Asp Tyr Thr Tyr Leu Ile Leu Arg Val Ile Gly Asn Met Gly
 485 490 495

Gln Thr Met Glu Gln Leu Thr Pro Glu Leu Lys Ser Ser Ile Leu Lys
 500 505 510

Cys Val Gln Ser Thr Lys Pro Ser Leu Met Ile Gln Lys Ala Ala Ile
 515 520 525

Gln Ala Leu Arg Lys Met Glu Pro Lys Asp Lys Asp Gln Glu Val Leu
 530 535 540

Leu Gln Thr Phe Leu Asp Asp Ala Ser Pro Gly Asp Lys Arg Leu Ala
 545 550 555 560

Ala Tyr Leu Met Leu Met Arg Ser Pro Ser Gln Ala Asp Ile Asn Lys
 565 570 575

Ile Val Gln Ile Leu Pro Trp Glu Gln Asn Glu Gln Val Lys Asn Phe
 580 585 590

Val Ala Ser His Ile Ala Asn Ile Leu Asn Ser Glu Glu Leu Asp Ile
 595 600 605

Gln Asp Leu Lys Lys Leu Val Lys Glu Ala Leu Lys Glu Ser Gln Leu
 610 615 620

Pro Thr Val Met Asp Phe Arg Lys Phe Ser Arg Asn Tyr Gln Leu Tyr
 625 630 635 640

Lys Ser Val Ser Leu Pro Ser Leu Asp Pro Ala Ser Ala Lys Ile Glu
 645 650 655

Gly Asn Leu Ile Phe Asp Pro Asn Asn Tyr Leu Pro Lys Glu Ser Met
 660 665 670

Leu Lys Thr Thr Leu Thr Ala Phe Gly Phe Ala Ser Ala Asp Leu Ile
 675 680 685

Glu Ile Gly Leu Glu Gly Lys Gly Phe Glu Pro Thr Leu Glu Ala Leu
 690 695 700

Phe Gly Lys Gln Gly Phe Phe Pro Asp Ser Val Asn Lys Ala Leu Tyr
 705 710 715 720

Trp Val Asn Gly Gln Val Pro Asp Gly Val Ser Lys Val Leu Val Asp
 725 730 735

His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu Gln Asp Met Val As n
 740 745 750

Gly Ile Met Leu Ser Val Glu Lys Leu Ile Lys Asp Leu Lys Ser Lys
 755 760 765

Glu Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile Leu Gly Gl u Glu Leu
 770 775 780

Gly Phe Ala Ser Leu His Asp Leu Gln Leu Leu Gly Lys Leu Leu Leu
 785 790 795 800

Met Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln Me t Ile Gly Glu Val
 805 810 815

Ile Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu His Tyr Ile Phe Met
 820 825 830

Glu Asn Ala Phe Glu Leu Pro Thr Gly Ala a Gly Leu Gln Leu Gln Ile
 835 840 845

Ser Ser Ser Gly Val Ile Ala Pro Gly Ala Lys Ala Gly Val Lys Leu
 850 855 860

Glu Val Ala Asn Met Gln Ala Glu Leu Val Ala Lys Pro Ser Val Ser
 865 870 875 880

Val Glu Phe Val Thr Asn Met Gly Ile Ile Ile Pro Asp Phe Ala Arg
 885 890 895

Ser Gly Val Gln Met Asn Thr Asn Phe Phe His Glu Ser Gly Leu Glu
 900 905 910

Ala His Val Ala Leu Lys Ala Gly Lys Leu Lys Phe Ile Ile Pro Ser
 915 920 925

Pro Lys Arg Pro Val Lys Leu Leu Ser Gly Gly Asn Thr Leu His Leu
 930 935 940

Val Ser Thr Thr Lys Thr Glu Val Ile Pro Pro Leu Ile Glu Asn Arg
 945 950 955 960

Gln Ser Trp Ser Val Cys Lys Gln Val Phe Pro Gly Leu Asn Tyr Cys
 965 970 975

Thr Ser Gly Ala Tyr Ser Asn Ala Ser Ser Thr Asp Ser Ala Ser Tyr
 980 985 990

Tyr Pro Leu Thr Gly Asp Thr Arg Leu Glu Leu Glu Leu Arg Pro Thr
 995 1000 1005

Gly Glu Ile Glu Gln Tyr Ser Val Ser Ala Thr Tyr Glu Leu Gln
 1010 1015 1020

Arg Glu Asp Arg Ala Leu Val Asp Thr Leu Lys Phe Val Thr Gln
 1025 1030 1035

Ala Glu Gly Ala Lys Gln Thr Glu Ala Thr Met Thr Phe Lys Tyr
 1040 1045 1050

Asn Arg Gln Ser Met Thr Leu Ser Ser Glu Val Gln Ile Pro Asp
 1055 1060 1065

Phe Asp Val Asp Leu Gly Thr Ile Leu Arg Val Asn Asp Glu Ser
 1070 1075 1080

Thr Glu Gly Lys Thr Ser Tyr Arg Leu Thr Leu Asp Ile Gln Asn
 1085 1090 1095

Lys Lys Ile Thr Glu Val Ala Leu Met Gly His Leu Ser Cys Asp
 1100 1105 1110

Thr Lys Glu Glu Arg Lys Ile Lys Gly Val Ile Ser Ile Pro Arg
 1115 1120 1125

Leu Gln Ala Glu Ala Arg Ser Glu Ile Leu Ala His Trp Ser Pro

1130	1135	1140
Ala Lys 1145	Leu Leu Leu Gln Met 1150	Asp Ser Ser Ala Thr 1155
Ser Thr 1160	Val Ser Lys Arg Val 1165	Ala Trp His Tyr Asp 1170
Ile Glu 1175	Phe Glu Trp Asn Thr 1180	Gly Thr Asn Val Asp 1185
Met Thr 1190	Ser Asn Phe Pro Val 1195	Asp Leu Ser Asp Tyr 1200
Leu His 1205	Met Tyr Ala Asn Arg 1210	Leu Leu Asp His Arg 1215
Thr Asp 1220	Met Thr Phe Arg His 1225	Val Gly Ser Lys Leu 1230
Met Ser 1235	Ser Trp Leu Gln Lys 1240	Ala Ser Gly Ser Leu 1245
Gln Thr 1250	Leu Gln Asp His Leu 1255	Asn Ser Leu Lys Glu 1260
Gln Asn 1265	Met Gly Leu Pro Asp 1270	Phe His Ile Pro Glu 1275
Leu Lys 1280	Ser Asp Gly Arg Val 1285	Lys Tyr Thr Leu Asn 1290
Leu Lys 1295	Ile Glu Ile Pro Leu 1300	Pro Phe Gly Gly Lys 1305
Asp Leu 1310	Lys Met Leu Glu Thr 1315	Val Arg Thr Pro Ala 1320
Lys Ser 1325	Val Gly Phe His Leu 1330	Pro Ser Arg Glu Phe 1335
Thr Phe 1340	Thr Ile Pro Lys Leu 1345	Tyr Gln Leu Gln Val 1350
Gly Val 1355	Leu Asp Leu Ser Thr 1360	Asn Val Tyr Ser Asn 1365

Trp Ser	Ala Ser Tyr Ser	Gly	Gly Asn Thr Ser Thr	Asp His Phe
1370		1375		1380
Ser Leu	Arg Ala Arg Tyr His	Met Lys Ala Asp Ser	Val Val Asp	
1385		1390	1395	
Leu Leu	Ser Tyr Asn Val Gln	Gly Ser Gly Glu Thr	Thr Tyr Asp	
1400		1405	1410	
His Lys	Asn Thr Phe Thr Leu	Ser Cys Asp Gly Ser	Leu Arg His	
1415		1420	1425	
Lys Phe	Leu Asp Ser Asn Ile	Lys Phe Ser His Val	Glu Lys Leu	
1430		1435	1440	
Gly Asn	Asn Pro Val Ser Lys	Gly Leu Leu Ile Phe	Asp Ala Ser	
1445		1450	1455	
Ser Ser	Trp Gly Pro Gln Met	Ser Ala Ser Val His	Leu Asp Ser	
1460		1465	1470	
Lys Lys	Lys Gln His Leu Phe	Val Lys Glu Val Lys	Ile Asp Gly	
1475		1480	1485	
Gln Phe	Arg Val Ser Ser Phe	Tyr Ala Lys Gly Thr	Tyr Gly Leu	
1490		1495	1500	
Ser Cys	Gln Arg Asp Pro Asn	Thr Gly Arg Leu Asn	Gly Glu Ser	
1505		1510	1515	
Asn Leu	Arg Phe Asn Ser Ser	Tyr Leu Gln Gly Thr	Asn Gln Ile	
1520		1525	1530	
Thr Gly	Arg Tyr Glu Asp Gly	Thr Leu Ser Leu Thr	Ser Thr Ser	
1535		1540	1545	
Asp Leu	Gln Ser Gly Ile Ile	Lys Asn Thr Ala Ser	Leu Lys Tyr	
1550		1555	1560	
Glu Asn	Tyr Glu Leu Thr Leu	Lys Ser Asp Thr Asn	Gly Lys Tyr	
1565		1570	1575	
Lys Asn	Phe Ala Thr Ser Asn	Lys Met Asp Met Thr	Phe Ser Lys	
1580		1585	1590	

Gln Asn 1595	Ala Leu 1600	Leu Arg 1605	Ser 1610	Glu Tyr 1615	Gln Ala 1620	Asp 1625	Tyr Glu 1630	Ser 1635
Leu Arg 1610	Phe Phe 1615	Ser Leu 1620	Leu 1625	Ser Gly 1630	Ser Leu 1635	Asn 1640	Ser His 1645	Gly 1650
Leu Glu 1625	Leu Asn 1630	Ala Asp 1635	Ile 1640	Leu Gly 1645	Thr Asp 1650	Lys 1655	Ile Asn 1660	Ser 1665
Gly Ala 1640	His Lys 1645	Ala Thr 1650	Leu 1655	Arg Ile 1660	Gly Gln 1665	Asp 1670	Gly Ile 1675	Ser 1680
Thr Ser 1655	Ala Thr 1660	Thr Asn 1665	Leu 1670	Lys Cys 1675	Ser Leu 1680	Leu 1685	Val Leu 1690	Glu 1695
Asn Glu 1670	Leu Asn 1675	Ala Glu 1680	Leu 1685	Gly Leu 1690	Ser Gly 1695	Ala 1700	Ser Met 1705	Lys 1710
Leu Thr 1685	Thr Asn 1690	Gly Arg 1695	Phe 1700	Arg Glu 1705	His Asn 1710	Ala 1715	Lys Phe 1720	Ser 1725
Leu Asp 1700	Gly Lys 1705	Ala Ala 1710	Leu 1715	Thr Glu 1720	Leu Ser 1725	Leu 1730	Gly Ser 1735	Ala 1740
Tyr Gln 1715	Ala Met 1720	Ile Leu 1725	Gly 1730	Val Asp 1735	Ser Lys 1740	Asn 1745	Ile Phe 1750	Asn 1755
Phe Lys 1730	Val Ser 1735	Gln Glu 1740	Gly 1745	Leu Lys 1750	Leu Ser 1755	Asn 1760	Asp Met 1765	Met 1770
Gly Ser 1745	Tyr Ala 1750	Glu Met 1755	Lys 1760	Phe Asp 1765	His Thr 1770	Asn 1775	Ser Leu 1780	Asn 1785
Ile Ala 1760	Gly Leu 1765	Ser Leu 1770	Asp 1775	Phe Ser 1780	Ser Lys 1785	Leu 1790	Asp Asn 1795	Ile 1800
Tyr Ser 1775	Ser Asp 1780	Lys Phe 1785	Tyr 1790	Lys Gln 1795	Thr Val 1800	Asn 1805	Leu Gln 1810	Leu 1815
Gln Pro 1790	Tyr Ser 1795	Leu Val 1800	Thr 1805	Thr Leu 1810	Asn Ser 1815	Asp 1820	Leu Lys 1825	Tyr 1830
Asn Ala 1805	Leu Asp 1810	Leu Thr 1815	Asn 1820	Asn Gly 1825	Lys Leu 1830	Arg 1835	Leu Glu 1840	Pro 1845

Leu Lys Leu His Val Ala Gly Asn Leu Lys Gly Ala Tyr Gln Asn
 1820 1825 1830

Asn Glu Ile Lys His Ile Tyr Ala Ile Ser Ser Ala Ala Leu Ser
1835 1840 1845

Ala Ser Tyr Lys Ala Asp Thr Val Ala Lys Val Gln Gly Val Glu
1850 1855 1860

Phe Ser His Arg Leu Asn Thr Asp Ile Ala Gly Leu Ala Ser Ala
1865 1870 1875

Ile Asp Met Ser Thr Asn Tyr Asn Ser Asp Ser Leu His Phe Ser
1880 1885 1890

Asn Val Phe Arg Ser Val Met Ala Pro Phe Thr Met Thr Ile Asp
1895 1900 1905

Ala His Thr Asn Gly Asn Gly Lys Leu Ala Leu Trp Gly Glu His
1910 1915 1920

Thr Gly Gln Leu Tyr Ser Lys Phe Leu Leu Lys Ala Glu Pro Leu
1925 1930 1935

Ala Phe Thr Phe Ser His Asp Tyr Lys Gly Ser Thr Ser His His
1940 1945 1950

Leu Val Ser Arg Lys Ser Ile Ser Ala Ala Leu Glu His Lys Val
1955 1960 1965

Ser Ala Leu Leu Thr Pro Ala Glu Gln Thr Gly Thr Trp Lys Leu
1970 1975 1980

Lys Thr Gln Phe Asn Asn Asn Glu Tyr Ser Gln Asp Leu Asp Ala
1985 1990 1995

Tyr Asn Thr Lys Asp Lys Ile Gly Val Glu Leu Thr Gly Arg Thr
2000 2005 2010

Leu Ala Asp Leu Thr Leu Leu Asp Ser Pro Ile Lys Val Pro Leu
2015 2020 20 25

Leu Leu Ser Glu Pro Ile Asn Ile Ile Asp Ala Leu Glu Met Arg
2030 2035 2040

Asp Ala Val Glu Lys Pro Gln Glu Phe Thr Ile Val Ala Phe Val

2045	2050	2055
Lys Tyr Asp Lys Asn Gln Asp 2060	Val His Ser Ile Asn 2065	Leu Pro Phe 2070
Phe Glu Thr Leu Gln Glu Tyr 2075	Phe Glu Arg Asn Arg 2080	Gln Thr Ile 2085
Ile Val Val Val Glu Asn Val 2090	Gln Arg Asn Leu Lys 2095	His Ile Asn 2100
Ile Asp Gln Phe Val Arg Lys 2105	Tyr Arg Ala Ala Leu 2110	Gly Lys Leu 2115
Pro Gln Gln Ala Asn Asp Tyr 2120	Leu Asn Ser Phe Asn 2125	Trp Glu Arg 2130
Gln Val Ser His Ala Lys Glu 2135	Lys Leu Thr Ala Leu 2140	Thr Lys Lys 2145
Tyr Arg Ile Thr Glu Asn Asp 2150	Ile Gln Ile Ala Leu 2155	Asp Asp Ala 2160
Lys Ile Asn Phe Asn Glu Lys 2165	Leu Ser Gln Leu Gln 2170	Thr Tyr Met 2175
Ile Gln Phe Asp Gln Tyr Ile 2180	Lys Asp Ser Tyr Asp 2185	Leu His Asp 2190
Leu Lys Ile Ala Ile Ala Asn 2195	Ile Ile Asp Glu Ile 2200	Ile Glu Lys 2205
Leu Lys Ser Leu Asp Glu His 2210	Tyr His Ile Arg Val 2215	Asn Leu Val 2220
Lys Thr Ile His Asp Leu His 2225	Leu Phe Ile Glu Asn 2230	Ile Asp Phe 2235
Asn Lys Ser Gly Ser Ser Thr 2240	Ala Ser Trp Ile Gln 2245	Asn Val Asp 2250
Thr Lys Tyr Gln Ile Arg Ile 2255	Gln Ile Gln Glu Lys 2260	Leu Gln Gln 2265
Leu Lys Arg His Ile Gln Asn 2270	Ile Asp Ile Gln His 2275	Leu Ala Gly 2280

Lys Leu Lys Gln His Ile Glu Ala Ile Asp Val Arg Val Leu Leu
2285 2290 2295

Asp Gln Leu Gly Thr Thr Ile Ser Phe Glu Arg Ile Asn Asp Val
2300 2305 2310

Leu Glu His Val Lys His Phe Val Ile Asn Leu Ile Gly Asp Phe
2315 2320 2325

Glu Val Ala Glu Lys Ile Asn Ala Phe Arg Ala Lys Val His Glu
2330 2335 2340

Leu Ile Glu Arg Tyr Glu Val Asp Gln Gln Ile Gln Val Leu Met
2345 2350 2355

Asp Lys Leu Val Glu Leu Thr His Gln Tyr Lys Leu Lys Glu Thr
2360 2365 2370

Ile Gln Lys Leu Ser Asn Val Leu Gln Gln Val Lys Ile Lys Asp
2375 2380 2385

Tyr Phe Glu Lys Leu Val Gly Phe Ile Asp Asp Ala Val Lys Lys
2390 2395 2400

Leu Asn Glu Leu Ser Phe Lys Thr Phe Ile Glu Asp Val Asn Lys
2405 2410 2415

Phe Leu Asp Met Leu Ile Lys Lys Leu Lys Ser Phe Asp Tyr His
2420 2425 2430

Gln Phe Val Asp Glu Thr Asn Asp Lys Ile Arg Glu Val Thr Gln
2435 2440 2445

Arg Leu Asn Gly Glu Ile Gln Ala Leu Glu Leu Pro Gln Lys Ala
2450 2455 2460

Glu Ala Leu Lys Leu Phe Leu Glu Glu Thr Lys Ala Thr Val Ala
2465 2470 2475

Val Tyr Leu Glu Ser Leu Gln Asp Thr Lys Ile Thr Leu Ile Ile
2480 2485 2490

Asn Trp Leu Gln Glu Ala Leu Ser Ser Ala Ser Leu Ala His Met
2495 2500 2505

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Lys Ala 2510	Lys Phe Arg Glu Thr 2515	Leu Glu Asp Thr Arg 2520	Asp Arg Met
Tyr Gln 2525	Met Asp Ile Gln Gln 2530	Glu Leu Gln Arg Tyr 2535	Leu Ser Leu
Val Gly 2540	Gln Val Tyr Ser Thr 2545	Leu Val Thr Tyr Ile 2550	Ser Asp Trp
Trp Thr 2555	Leu Ala Ala Lys Asn 2560	Leu Thr Asp Phe Ala 2565	Glu Gln Tyr
Ser Ile 2570	Gln Asp Trp Ala Lys 2575	Arg Met Lys Ala Leu 2580	Val Glu Gln
Gly Phe 2585	Thr Val Pro Glu Ile 2590	Lys Thr Ile Leu Gly 2595	Thr Met Pro
Ala Phe 2600	Glu Val Ser Leu Gln 2605	Ala Leu Gln Lys Ala 2610	Thr Phe Gln
Thr Pro 2615	Asp Phe Ile Val Pro 2620	Leu Thr Asp Leu Arg 2625	Ile Pro Ser
Val Gln 2630	Ile Asn Phe Lys Asp 2635	Leu Lys Asn Ile Lys 2640	Ile Pro Ser
Arg Phe 2645	Ser Thr Pro Glu Phe 2650	Thr Ile Leu Asn Thr 2655	Phe His Ile
Pro Ser 2660	Phe Thr Ile Asp Phe 2665	Val Glu Met Lys Val 2670	Lys Ile Ile
Arg Thr 2675	Ile Asp Gln Met Gln 2680	Asn Ser Glu Leu Gln 2685	Trp Pro Val
Pro Asp 2690	Ile Tyr Leu Arg Asp 2695	Leu Lys Val Glu Asp 2700	Ile Pro Leu
Ala Arg 2705	Ile Thr Leu Pro Asp 2710	Phe Arg Leu Pro Glu 2715	Ile Ala Ile
Pro Glu 2720	Phe Ile Ile Pro Thr 2725	Leu Asn Leu Asn Asp 2730	Phe Gln Val

Pro Asp Leu His Ile Pro Glu Phe Gln Leu Pro His Ile Ser His
 2735 2740 2745
 Thr Ile Glu Val Pro Thr Phe Gly Lys Leu Tyr Ser Ile Leu Lys
 2750 2755 2760
 Ile Gln Ser Pro Leu Phe Thr Leu Asp Ala Asn Ala Asp Ile Gly
 2765 2770 2775
 Asn Gly Thr Thr Ser Ala Asn Glu Ala Gly Ile Ala Ala Ser Ile
 2780 2785 2790
 Thr Ala Lys Gly Glu Ser Lys Leu Glu Val Leu Asn Phe Asp Phe
 2795 2800 2805
 Gln Ala Asn Ala Gln Leu Ser Asn Pro Lys Ile Asn Pro Leu Ala
 2810 2815 2820
 Leu Lys Glu Ser Val Lys Phe Ser Ser Lys Tyr Leu Arg Thr Glu
 2825 2830 2835
 His Gly Ser Glu Met Leu Phe Phe Gly Asn Ala Ile Glu Gly Lys
 2840 2845 2850
 Ser Asn Thr Val Ala Ser Leu His Thr Glu Lys Asn Thr Leu Glu
 2855 2860 2865
 Leu Ser Asn Gly Val Ile Val Lys Ile Asn Asn Gln Leu Thr Leu
 2870 2875 2880
 Asp Ser Asn Thr Lys Tyr Phe His Lys Leu Asn Ile Pro Lys Leu
 2885 2890 2895
 Asp Phe Ser Ser Gln Ala Asp Leu Arg Asn Glu Ile Lys Thr Leu
 2900 2905 2910
 Leu Lys Ala Gly His Ile Ala Trp Thr Ser Ser Gly Lys Gly Ser
 2915 2920 2925
 Trp Lys Trp Ala Cys Pro Arg Phe Ser Asp Glu Gly Thr His Glu
 2930 2935 2940
 Ser Gln Ile Ser Phe Thr Ile Glu Gly Pro Leu Thr Ser Phe Gly
 2945 2950 2955
 Leu Ser Asn Lys Ile Asn Ser Lys His Leu Arg Val Asn Gln Asn

2960	2965	2970
Leu Val Tyr Glu Ser Gly Ser 2975	Leu Asn Phe Ser 2980	Lys Leu Glu Ile 2985
Gln Ser 2990	Gln Val Asp Ser Gln 2995	His Val Gly His Ser Val Leu Thr 3000
Ala Lys 3005	Gly Met Ala Leu Phe 3010	Gly Glu Gly Lys Ala Glu Phe Thr 3015
Gly Arg 3020	His Asp Ala His Leu 3025	Asn Gly Lys Val Ile Gly Thr Leu 3030
Lys Asn 3035	Ser Leu Phe Phe Ser 3040	Ala Gln Pro Phe Glu Ile Thr Ala 3045
Ser Thr 3050	Asn Asn Glu Gly Asn 3055	Leu Lys Val Arg Phe Pro Leu Arg 3060
Leu Thr 3065	Gly Lys Ile Asp Phe 3070	Leu Asn Asn Tyr Ala Leu Phe Leu 3075
Ser Pro 3080	Ser Ala Gln Gln Ala 3085	Ser Trp Gln Val Ser Ala Arg Phe 3090
Asn Gln 3095	Tyr Lys Tyr Asn Gln 3100	Asn Phe Ser Ala Gly Asn Asn Glu 3105
Asn Ile 3110	Met Glu Ala His Val 3115	Gly Ile Asn Gly Glu Ala Asn Leu 3120
Asp Phe 3125	Leu Asn Ile Pro Leu 3130	Thr Ile Pro Glu Met Arg Leu Pro 3135
Tyr Thr 3140	Ile Ile Thr Thr Pro 3145	Pro Leu Lys Asp Phe Ser Leu Trp 3150
Glu Lys 3155	Thr Gly Leu Lys Glu 3160	Phe Leu Lys Thr Thr Lys Gln Ser 3165
Phe Asp 3170	Leu Ser Val Lys Ala 3175	Gln Tyr Lys Lys Asn Lys His Arg 3180
His Ser 3185	Ile Thr Asn Pro Leu 3190	Ala Val Leu Cys Glu Phe Ile Ser 3195

Gln Ser Ile Lys Ser Phe Asp Arg His Phe Glu Lys Asn Arg Asn
 3200 3205 3210
 Asn Ala Leu Asp Phe Val Thr Lys Ser Tyr Asn Glu Thr Lys Ile
 3215 3220 3225
 Lys Phe Asp Lys Tyr Lys Ala Glu Lys Ser His Asp Glu Leu Pro
 3230 3235 3240
 Arg Thr Phe Gln Ile Pro Gly Tyr Thr Val Pro Val Val Asn Val
 3245 3250 3255
 Glu Val Ser Pro Phe Thr Ile Glu Met Ser Ala Phe Gly Tyr Val
 3260 3265 3270
 Phe Pro Lys Ala Val Ser Met Pro Ser Phe Ser Ile Leu Gly Ser
 3275 3280 3285
 Asp Val Arg Val Pro Ser Tyr Thr Leu Ile Leu Pro Ser Leu Glu
 3290 3295 3300
 Leu Pro Val Leu His Val Pro Arg Asn Leu Lys Leu Ser Leu Pro
 3305 3310 3315
 His Phe Lys Glu Leu Cys Thr Ile Ser His Ile Phe Ile Pro Ala
 3320 3325 3330
 Met Gly Asn Ile Thr Tyr Asp Phe Ser Phe Lys Ser Ser Val Ile
 3335 3340 3345
 Thr Leu Asn Thr Asn Ala Glu Leu Phe Asn Gln Ser Asp Ile Val
 3350 3355 3360
 Ala His Leu Leu Ser Ser Ser Ser Ser Val Ile Asp Ala Leu Gln
 3365 3370 3375
 Tyr Lys Leu Glu Gly Thr Thr Arg Leu Thr Arg Lys Arg Gly Leu
 3380 3385 3390
 Lys Leu Ala Thr Ala Leu Ser Leu Ser Asn Lys Phe Val Glu Gly
 3395 3400 3405
 Ser His Asn Ser Thr Val Ser Leu Thr Thr Lys Asn Met Glu Val
 3410 3415 3420

Ser Val 3425	Ala Lys Thr Thr 3430	Lys Ala Glu Ile Pro Ile 3435	Leu Arg Met
Asn Phe 3440	Lys Gln Glu Leu Asn 3445	Gly Asn Thr Lys Ser 3450	Lys Pro Thr
Val Ser 3455	Ser Ser Met Glu Phe 3460	Lys Tyr Asp Phe Asn 3465	Ser Ser Met
Leu Tyr 3470	Ser Thr Ala Lys Gly 3475	Ala Val Asp His Lys 3480	Leu Ser Leu
Glu Ser 3485	Leu Thr Ser Tyr Phe 3490	Ser Ile Glu Ser Ser 3495	Thr Lys Gly
Asp Val 3500	Lys Gly Ser Val Leu 3505	Ser Arg Glu Tyr Ser 3510	Gly Thr Ile
Ala Ser 3515	Glu Ala Asn Thr Tyr 3520	Leu Asn Ser Lys Ser 3525	Thr Arg Ser
Ser Val 3530	Lys Leu Gln Gly Thr 3535	Ser Lys Ile Asp Asp 3540	Ile Trp Asn
Leu Glu 3545	Val Lys Glu Asn Phe 3550	Ala Gly Glu Ala Thr 3555	Leu Gln Arg
Ile Tyr 3560	Ser Leu Trp Glu His 3565	Ser Thr Lys Asn His 3570	Leu Gln Leu
Glu Gly 3575	Leu Phe Phe Thr Asn 3580	Gly Glu His Thr Ser 3585	Lys Ala Thr
Leu Glu 3590	Leu Ser Pro Trp Gln 3595	Met Ser Ala Leu Val 3600	Gln Val His
Ala Ser 3605	Gln Pro Ser Ser Phe 3610	His Asp Phe Pro Asp 3615	Leu Gly Gln
Glu Val 3620	Ala Leu Asn Ala Asn 3625	Thr Lys Asn Gln Lys 3630	Ile Arg Trp
Lys Asn 3635	Glu Val Arg Ile His 3640	Ser Gly Ser Phe Gln 3645	Ser Gln Val

Glu Leu	Ser Asn Asp Gln	Glu	Lys Ala His Leu	Asp	Ile Ala Gly
3650		3655		3660	
Ser Leu	Glu Gly His Leu	Arg	Phe Leu Lys Asn	Ile	Ile Leu Pro
3665		3670		3675	
Val Tyr	Asp Lys Ser Leu	Trp	Asp Phe Leu Lys	Leu	Asp Val Thr
3680		3685		3690	
Thr Ser	Ile Gly Arg Arg	Gln	His Leu Arg Val	Ser	Thr Ala Phe
3695		3700		3705	
Val Tyr	Thr Lys Asn Pro	Asn	Gly Tyr Ser Phe	Ser	Ile Pro Val
3710		3715		3720	
Lys Val	Leu Ala Asp Lys	Phe	Ile Thr Pro Gly	Leu	Lys Leu Asn
3725		3730		3735	
Asp Leu	Asn Ser Val Leu	Val	Met Pro Thr Phe	His	Val Pro Phe
3740		3745		3750	
Thr Asp	Leu Gln Val Pro	Ser	Cys Lys Leu Asp	Phe	Arg Glu Ile
3755		3760		3765	
Gln Ile	Tyr Lys Lys Leu	Arg	Thr Ser Ser Phe	Ala	Leu Asn Leu
3770		3775		3780	
Pro Thr	Leu Pro Glu Val	Lys	Phe Pro Glu Val	Asp	Val Leu Thr
3785		3790		3795	
Lys Tyr	Ser Gln Pro Glu	Asp	Ser Leu Ile Pro	Phe	Phe Glu Ile
3800		3805		3810	
Thr Val	Pro Glu Ser Gln	Leu	Thr Val Ser Gln	Phe	Thr Leu Pro
3815		3820		3825	
Lys Ser	Val Ser Asp Gly	Ile	Ala Ala Leu Asp	Leu	Asn Ala Val
3830		3835		3840	
Ala Asn	Lys Ile Ala Asp	Phe	Glu Leu Pro Thr	Ile	Ile Val Pro
3845		3850		3855	
Glu Gln	Thr Ile Glu Ile	Pro	Ser Ile Lys Phe	Ser	Val Pro Ala
3860		3865		3870	
Gly Ile	Val Ile Pro Ser	Phe	Gln Ala Leu Thr	Ala	Arg Phe Glu

3875	3880	3885
Val Asp Ser Pro Val Tyr Asn Ala Thr Trp Ser Ala Ser Leu Lys		
3890	3895	3900
Asn Lys Ala Asp Tyr Val Glu Thr Val Leu Asp Ser Thr Cys Ser		
3905	3910	3915
Ser Thr Val Gln Phe Leu Glu Tyr Glu Leu Asn Val Leu Gly Thr		
3920	3925	3930
His Lys Ile Glu Asp Gly Thr Leu Ala Ser Lys Thr Lys Gly Thr		
3935	3940	3945
Leu Ala His Arg Asp Phe Ser Ala Glu Tyr Glu Glu Asp Gly Lys		
3950	3955	3960
Phe Glu Gly Leu Gln Glu Trp Glu Gly Lys Ala His Leu Asn Ile		
3965	3970	3975
Lys Ser Pro Ala Phe Thr Asp Leu His Leu Arg Tyr Gln Lys Asp		
3980	3985	3990
Lys Lys Gly Ile Ser Thr Ser Ala Ala Ser Pro Ala Val Gly Thr		
3995	4000	4005
Val Gly Met Asp Met Asp Glu Asp Asp Asp Phe Ser Lys Trp Asn		
4010	4015	4020
Phe Tyr Tyr Ser Pro Gln Ser Ser Pro Asp Lys Lys Leu Thr Ile		
4025	4030	4035
Phe Lys Thr Glu Leu Arg Val Arg Glu Ser Asp Glu Glu Thr Gln		
4040	4045	4050
Ile Lys Val Asn Trp Glu Glu Glu Ala Ala Ser Gly Leu Leu Thr		
4055	4060	4065
Ser Leu Lys Asp Asn Val Pro Lys Ala Thr Gly Val Leu Tyr Asp		
4070	4075	4080
Tyr Val Asn Lys Tyr His Trp Glu His Thr Gly Leu Thr Leu Arg		
4085	4090	4095
Glu Val Ser Ser Lys Leu Arg Arg Asn Leu Gln Asn Asn Ala Glu		
4100	4105	4110

Trp Val Tyr Gln Gly Ala Ile Arg Gln Ile Asp Asp Ile Asp Val
 4115 4120 4125
 Arg Phe Gln Lys Ala Ala Ser Gly Thr Thr Gly Thr Tyr Gln Glu
 4130 4135 4140
 Trp Lys Asp Lys Ala Gln Asn Leu Tyr Gln Glu Leu Leu Thr Gln
 4145 4150 4155
 Glu Gly Gln Ala Ser Phe Gln Gly Leu Lys Asp Asn Val Phe Asp
 4160 4165 4170
 Gly Leu Val Arg Val Thr Gln Lys Phe His Met Lys Val Lys His
 4175 4180 4185
 Leu Ile Asp Ser Leu Ile Asp Phe Leu Asn Phe Pro Arg Phe Gln
 4190 4195 4200
 Phe Pro Gly Lys Pro Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr
 4205 4210 4215
 Met Phe Ile Arg Glu Val Gly Thr Val Leu Ser Gln Val Tyr Ser
 4220 4225 4230
 Lys Val His Asn Gly Ser Glu Ile Leu Phe Ser Tyr Phe Gln Asp
 4235 4240 4245
 Leu Val Ile Thr Leu Pro Phe Glu Leu Arg Lys His Lys Leu Ile
 4250 4255 4260
 Asp Val Ile Ser Met Tyr Arg Glu Leu Leu Lys Asp Leu Ser Lys
 4265 4270 4275
 Glu Ala Gln Glu Val Phe Lys Ala Ile Gln Ser Leu Lys Thr Thr
 4280 4285 4290
 Glu Val Leu Arg Asn Leu Gln Asp Leu Leu Gln Phe Ile Phe Gln
 4295 4300 4305
 Leu Ile Glu Asp Asn Ile Lys Gln Leu Lys Glu Met Lys Phe Thr
 4310 4315 4320
 Tyr Leu Ile Asn Tyr Ile Gln Asp Glu Ile Asn Thr Ile Phe A sn
 4325 4330 4335

Asp Tyr Ile Pro Tyr Val Phe Lys Leu Leu Lys Glu Asn Leu Cys
 4340 4345 4350
 Leu Asn Leu His Lys Phe Asn Glu Phe Ile Gln Asn Glu Leu Gln
 4355 4360 4365
 Glu Ala Ser Gln Glu Leu Gln Gln Ile His Gln Tyr Ile Met Ala
 4370 4375 4380
 Leu Arg Glu Glu Tyr Phe Asp Pro Ser Ile Val Gly Trp Thr Val
 4385 4390 4395
 Lys Tyr Tyr Glu Leu Glu Glu Lys Ile Val Ser Leu Ile Lys Asn
 4400 4405 4410
 Leu Leu Val Ala Leu Lys Asp Phe His Ser Glu Tyr Ile Val Ser
 4415 4420 4425
 Ala Ser Asn Phe Thr Ser Gln Leu Ser Ser Gln Val Glu Gln Phe
 4430 4435 4440
 Leu His Arg Asn Ile Gln Glu Tyr Leu Ser Ile Leu Thr Asp Pro
 4445 4450 4455
 Asp Gly Lys Gly Lys Glu Lys Ile Ala Glu Leu Ser Ala Thr Ala
 4460 4465 4470
 Gln Glu Ile Ile Lys Ser Gln Ala Ile Ala Thr Lys Lys Ile Ile
 4475 4480 4485
 Ser Asp Tyr His Gln Gln Phe Arg Tyr Lys Leu Gln Asp Phe Ser
 4490 4495 4500
 Asp Gln Leu Ser Asp Tyr Tyr Glu Lys Phe Ile Ala Glu Ser Lys
 4505 4510 4515
 Arg Leu Ile Asp Leu Ser Ile Gln Asn Tyr His Thr Phe Leu Ile
 4520 4525 4530
 Tyr Ile Thr Glu Leu Leu Lys Lys Leu Gln Ser Thr Thr Val Met
 4535 4540 4545
 Asn Pro Tyr Met Lys Leu Ala Pro Gly Glu Leu Thr Ile Ile Leu
 4550 4555 4560

<210> 2
<211> 317
<212> PRT
<213> Homo sapiens

<400> 2

Met Lys Val Leu Trp Ala Ala Leu Leu Val Thr Phe Leu Ala Gly Cys
1 5 10 15

Gln Ala Lys Val Glu Gln Ala Val Glu Thr Glu Pro Glu Pro Glu Leu
20 25 30

Arg Gln Gln Thr Glu Trp Gln Ser Gly Gln Arg Trp Glu Leu Ala Leu
35 40 45

Gly Arg Phe Trp Asp Tyr Leu Arg Trp Val Gln Thr Leu Ser Glu Gln
50 55 60

Val Gln Glu Glu Leu Leu Ser Ser Gln Val Thr Gln Glu Leu Arg Ala
65 70 75 80

Leu Met Asp Glu Thr Met Lys Glu Leu Lys Ala Tyr Lys Ser Glu Leu
85 90 95

Glu Glu Gln Leu Thr Pro Val Ala Glu Glu Thr Arg Ala Arg Leu Ser
100 105 110

Lys Glu Leu Gln Ala Ala Gln Ala Arg Leu Gly Ala Asp Met Glu Asp
115 120 125

Val Cys Gly Arg Leu Val Gln Tyr Arg Gly Glu Val Gln Ala Met Leu
130 135 140

Gly Gln Ser Thr Glu Glu Leu Arg Val Arg Leu Ala Ser His Le u Arg
145 150 155 160

Lys Leu Arg Lys Arg Leu Leu Arg Asp Ala Asp Asp Leu Gln Lys Arg
165 170 175

Leu Ala Val Tyr Gln Ala Gly Ala Arg Glu Gly Ala Gl u Arg Gly Leu
180 185 190

Ser Ala Ile Arg Glu Arg Leu Gly Pro Leu Val Glu Gln Gly Arg Val
195 200 205

Arg Ala Ala Thr Val Gly Ser Leu Ala Gly Gl n Pro Leu Gln Glu Arg
210 215 220

Ala Gln Ala Trp Gly Glu Arg Leu Arg Ala Arg Met Glu Glu Met Gly
225 230 235 240

Ser Arg Thr Arg Asp Arg Leu Asp Glu Val Lys Glu Gln Val Ala Glu
245 250 255

Val Arg Ala Lys Leu Glu Glu Gln Ala Gln Gln Ile Arg Leu Gln Ala
260 265 270

Glu Ala Phe Gln Ala Arg Leu Lys Ser Trp Phe Glu Pro Leu Val Glu
275 280 285

Asp Met Gln Arg Gln Trp Ala Gly Leu Val Glu Lys Val Gln Ala Ala
290 295 300

Val Gly Thr Ser Ala Ala Pro Val Pro Ser Asp Asn His
305 310 315

<210> 3

<211> 11

<212> PRT

<213> synthetic construct

<400> 3

Glu Asn Phe Ala Gly Glu Ala Thr Leu Gln Arg
1 5 10